KUPRIYENKO, I.V.

Preventing washouts. Put' i put.khoz. 8 no.4:32-33 '64. (MIRA 17:4)

1. Nachal'nik mosoispytatel'noy stantsii Donetskoy dorogi.

KUPRIYENKO, I.V.

Effect of six-axle cars on the track. Put' i put. khoz. no.5:
27 My '59.   (MIRA 12:8)

1.Nachal'nik mostoispytatelnoy stantsii, g.Stalino,,Donetskoy
dorogi.
              (Railroads—Cars) (Railroads—Track)

KUPRIYENKO, I.V.

Replacement of bridge spans. Put'i put.khoz. 5 no.5:36 My '61.

(MIRA 14:6)

1. Nachal'nik mestoispytatel'noy stantsii Donetskoy dorogi, g. Stalino.
(Railroad bridges)

DANILOV, N.S. (Novosibirsk); KUPRIYENKO, P.L. (Novosibirsk);
    MALININ, N.I. (Novosibirsk); RABOTNOV, Yu.N. (Novosibirsk);
    SHUBIN, I.A. (Novosibirsk)

Program-controlled machine for investigating deformations
of plastics under complexly stressed state conditions. Izv.
AN SSSR. Mekh. i mashinostr. no.6:20-24 N-D '63.
                                        (MIRA 17:1)

KUPRIYENKOV, V.A.

Mechanization of maintenance operations. Put' i put.khoz. 4 no.11:
8-11 N '60.   (MIRA 13:12)

1. Starshiy dorozhnyy master po mekhanizatsii, st. Klin, Oktyabr'skoy
dorogi.
          (Railroads—Maintenance and repair)

KUPRIYEV, N., kapitan 2 ranga

With experience comes also resolution. Starsh.-serzh. no.4(7):
6 Ap '61.   (MIRA 14:7)
                    (Naval education)

KUPRIYEVICH, V.A. [Kupriievych, V.A.]; YEGOROV, Yu.P. [IEhorov, IU.P.];
    DYADYUSHA, G.G. [Diadiusha, H.H.]

    Electron interaction of allyl derivatives of elements of the 1V
    group. Dop. AN URSR no.4:508-510 '64.   (MIRA 17:5)

    1. Institut khimii polimerov i monomerov AN UkrSSR. Predstavleno
    akademikom AN UkrSSR A.I.Brodskim [Brods'kyi, O.I.].

DYADYUSHA, G.G.; KUPRIYEVICH, V.A.

Theory of the self-consistent field for the state with open
shells. Teore.. i eksper. khim. 1 no.3:406-408 My-Je '65.
(MIRA 18;9)

1. Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR,
Kiyev.

KUPRIYEVICH, V.A. [Kupriievych, V.A.]

Mean energy in the generalized Hartree-Fock method. Dop. AN UkSR no.8:1028-1030 '65.   (MIRA 18:8)

1. Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR.

DYADYUSHA, G.G. [Diadiusha, H.H.]; KUPRYEVICH, V.A. [Kupriievych, V.A.]

Theory of a self-consistent field in multiconfigurational approximation. Dop. AN URSR no.7:884-890 '65.   (MIRA 18:9)

1. Institut khimii vysokomolekulyarnykh soyedineniy AN UkrSSR.

BETEKHTIN, A.G.[deceased]; GOLIKOV, A.S.; DERE..., V.P.; IVAN...
G.A.; KARYAKIN, A.Ye.; PIRYUKOV, V.V.; KOLOV, ...G.;
MAGAK'YAN, I.G.; STROLA, I.A.; TATARIKOV, I.K.;
CHEKHOVICH, Ye.D.; SMIRNOV, V.I., retsenzent

[Course in mineral deposits] Kurs mestorozhdenii poleznykh
iskopaemykh. Izd.3., ...ror. i dop. ...kva, Nedra, 196...
589 p.   (MIRA 17:3)

ACC NR: AT6014848   (N)   SOURCB CODE: UR/2531/66/000/188/0003/0010

AUTHOR: Kolokolov, V.P.; Barkalova, K.N.; Kuprovich, V.V.; Kutyavin, V.A.; Simonova, R.I.

ORG: None

TITLE: On a more precise method of mapping the number of lightning flashes

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 188, 1966. Atmosphernoye elektrichestvo (Atmospheric electricty), 3-10

TOPIC TAGS: atmospheric electricity, thunderstorm activity, lightning, ~~lightning occurrence density~~ WEATHER MAP

ABSTRACT: The paper discusses improved methods for mapping the geographical density of lightning flashes. -. Lightning discharge counters with a known effective regi-stration radius (defined as the maximum one within which all discharges are registe-red), were used. An expression for the effective radius, derived for wide band (2-20 kc) counters from a previously published (referenced) paper of L.G. Makhotkin, was too sensitive to its coefficient's errors; therefore, simultaneous registration with a narrow band (56-62 kc) counter was employed. Thunderstorm activity was expressed as the monthly number of discharges per 100 km^2 of the recording station vicinity area. Thunderstorm activity over the North Atlantic has been also evaluated from British MGG and MGS (unreferenced) radiolocation data. Dependence of thunderstorm activity, in

Card 1/2

ACC NR: AT6014848

form of number of discharges per 100 km^2 per month and also number of days with thunderstorms per month, - vs. a temperature-humidity index "te" was determined and established. The temperature-humidity index chosen was represented by the product of the temperature in $^{\circ}C$ x absolute humidity in millibars. Comments on further development are given. Orig. art. has: 2 figures, 3 formulas and 4 tables.

SUB CODE: 04/   SUBM DATE: None/   ORIG REF: 006/   OTH REF: 007

Card 2/2

KACVSKIY, B. B.

"Heat and Temperature Conductivity of Alloys of Silicon and Iron." Cand Tech Sci, Ural Polytechnic Inst imeni S. M. Kirov, Min Higher Education USSR, Sverdlovsk, 1955. (KL, No 10, Mar 56)

SO: Sum. No. 670, 29 Sep 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

Куprоvskiy, B.B.

USSR/Statistical Physics - Heat

D-4

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11454

Author   : Kuprovskiy, B.B., Gel'd, P.V.

Inst   : Ural' Polytechnic Institute

Title   : Isotherms of Heat Conduction of Silicon and Its Alloys
            with Iron at High Temperatures.

Orig Pub : Fiz. metallov i metallovedeniye, 1956, 3, No 1, 132-183

Abstract : An investigation was made of alloys, containing one to
            98.8% by weight of silicon in the temperature range t =
            100 -- 950°. The method of radial flow in a thick-walled
            cylinder was used. The errors did not exceed 7%. For
            commercial silicon (98.8% Si) the authors obtain an empi-
            rical equation for the temperature dependence of the heat
            conduction coefficient: $\lambda = 0.222 - 0.368 \times 10^{-3} t$
            $0.219 \times 10^{-6} t_2 - 0.0018 \times 10^5 t^{-2}$. Extrapolation to 10°

Card 1/2

Abs Jour   : Ref Zhur - Fizika, No 5, 1957, 11454

is in agreement with data of other authors. A plot of the
isotherms λ of the alloys Fe-Si is given. A characteristic
feature of the plot is the presence of a minimum at appro-
ximately 45 to 65° Fe, with the minimum value of λ being
quite small (at 100° it is 8 -- 10 times smaller that the
λ of iron. Introducing small amounts of the second compo-
nent reduces λ sharply. The effect of addition of sili-
con is explained by the formation of α-solutions, and
the effect of additions of iron, are both attributed essen-
tially to the appearance of intermetallic Leboite phase.

Card 2/2

Kuprovskiy, B B

AID P - 4427

Subject   : USSR/Heat Engineering

Card 1/1   Pub. 110-a - 7/13

Authors   : Gel'd, P. V., Dr. Tech. Sci., B. B. Kuprovskiy and
                 N. N. Serebrennikov, Kands. Tech. Sci. Ural Poly-
                 technical Institute.

Title   : Rate of temperature raise in steel at high temperatures.

Abstract   : Research on thermal capacity, conductivity and co-
                 efficient of expansion of steel containing from 1 to
                 4.4% Si at up to 1000°C is reported, with the aid of
                 mathematical analyses. Results reportedly proved that
                 thermal conductivity and temperature rate diminish with
                 the increase of Si content in the steel. Five tables,
                 4 diagrams. Sixteen Russian references, 1935-1955;
                 2 English 1941, 1946; 5 German 1900-1935.

Institution : None

Submitted   : No date

137-58-2-3888

KUPROVSKIY, B.B.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 230 (USSR)

AUTHORS: Kuprovskiy, B.B., Gel'd, P.V.

TITLE: Thermal Conductivity of Silicon-iron Alloys at High Temp-
             eratures (Teploprovodnost' splavov kremniya s zhelezom
             pri vysokikh temperaturakh)

PERIODICAL: V sb.: Fiz-khim.osnovy proiz-va stali. Moscow, AN
             SSSR, 1957, pp 370-386. Diskus., pp 408-409

ABSTRACT: The thermal conductivity λ was measured by a fixed ab-
             solute method employing a radial current in a thick-walled
             specimen. The specimens were disk shaped and had a central
             aperture for an internal heater, and 4 apertures along a diam-
             eter for the measurement of the temperature. The apparatus
             consisted of a cylindrical furnace, within which the speci-
             mens to be investigated were inserted. The furnace was in-
             sulated at its ends by a series of ceramic disks and supple-
             mentary end heaters. An internal heater that created a heat
             flow was inserted through the central hole in the specimens.
             λ was calculated by means of the equation $\lambda \approx 0.00835 \, IU/(t_1 - t_2)$,

Card 1/2   where I and U are the current and the voltage in the internal

Thermal Conductivity of Silicon-iron (cont.)

heater, and t_1 and t_2 are the temperatures at different distances from the center of the specimen (disk). The maximum error by this method is about 7%. An experimental formula for the dependence of λ upon temperature for technical Si (98.8%) and for various phases of the Fe-Si system in the 100-950°C interval is presented. Extrapolation of the experimental data to 10^0 yields a value $\lambda_{Si} = 0.220$ cal/cm.sec.°,which is in general in good agreement with the literature data, if it be considered that the values of λ for technical and pure Si differ by a factor of 1.3. The λ isotherms of the Fe-Si system drop rapidly when up to 4% Si is added to the Fe. It is assumed that this is due to a change in the nature of the bond between the Fe and Si atoms as they pass the 4% Si content level. On the Si side, the λ isotherms also drop on addition of Fe, but the decline is not as sharp. In the middle range of concentrations, λ is low and aries comparatively little with composition. This is due to a diminution in the concentration of the valence electrons, in connection with which fact λ is determined primarily by the phononic constituent. Investigation of the λ of iron containing flake and spheroidal graphite (G) showed that in the case of flake G the λ of iron increased as the G content increased. Iron with spheroidal G has a lower λ and is virtually independent of the G content. This is explained by the fact that in the case of spheroidal G the latter is localized and, therefore, does not have a significant effect upon the λ of iron. Bibliography: 12 references.

L. B.

Card 2/2

1. Iron-silicon alloys—Heat conductivity—Measurement   2. Iron-silicon alloys —Heat conductivity—Test results

AUTA....... ....

SOV/137-58-8-17634

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8. p 205 (USSR)

AUTHORS: Kuprovskiy, B. B. , Gel'd, P. V.

TITLE·   Heat Conductivity of Alloys of Silicon with Iron (Teploprovodnost'
             splavov kremniya s zhelezom pri vysokikh temperaturakh)

PERIODICAL: Tr. Ural'skogo politekhn. in-ta, 1957, Nr 72, pp 121-133

ABSTRACT: Ref. RZhMet, 1958, Nr 2, abstract 3888

        1. Iron-silicon alloys--Heat transfer

Card 1/1

29649
S/146/61/004/004/013/015
D201/D306

24 5500

AUTHORS: Sukhanov, Ye. L., and Kuprovskiy, B. B.

TITLE: Comparison of stationary and non-stationary methods of
              determining thermal conductivity of nickel-chromium
              alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Priboro-
              stroyeniye, v. 4, no. 4, 1961, 98 - 100

TEXT: In order to determine the usefulness of regular heat regime
methods for determining the thermal properties of metals at high
temperatures, the authors compare two basic methods of analysis:
Stationary and non-stationary methods. Both methods were used to
investigate the chromium stainless steel 2X13 (2Kh13) and nichrome
type X20H80 (Kh20N80). The chemical composition of the two alloys
is given. The thermal conductivity λ of the investigated alloys was
determined by the absolute method of radial thermal flux in a thick
walled cylinder at the laboratories of the Department of Physics of
the Polytechnic Institute, Uralsk. The experimental arrangements and
methods are described by B. B. Kuprovskiy and P. V. Gel'd (Ref. 1:
Card 1/3

S/146/61/004/004/013/015
D201/D306

Comparison of stationary and non-statio-...

Sbornik izd. AN SSSR, 1957). All samples were prepared in the forms of 68 mm dia. discs. Two of them had a height of 25 mm. 8 thermal insulation discs (each 10 mm high) were placed on each side of the disc under investigation. The samples were heated by platinum heat-ing elements, placed centrally in the disc in an aperture of 12 mm dia. The discs had also 4 apertures (4 mm dia.) for the thermocoup-les. The measurements were carried out between 100 and $900^\circ C$ (one arrangement between 100-$500^\circ C$, the other 500-$900^\circ C$). The greatest possible relative error in determining λ by the stationary method did not exceed 7 %. The two-point method of D.V. Budrin and E.L. Sukhanov (Ref. 2: Metallurgiya, 1959, no. 2) was used to evaluate the temperature conductivity a of the analyzed alloys. Results ob-tained by the two methods were compared by comparing the values of thermal conductivity. For the non-stationary method the latter was determined from $\lambda = a \cdot \gamma_{20}^\circ C$. The density at $20^\circ C$ γ_{20} and the true

specific thermal capacity c were determined by experiment. The re-sults obtained by the two methods are in good agreement with each other (deviations of the measured values from the averaging curves did not exceed 7 %), so that both methods may be recommended for

Card 2/3

Comparison of stationary and non-...

29649
S/146/61/004/004/013/015
D201/D306

rapid determination of thermal properties of metals at high tempe-
rature. This article was recommended by the Kafedra metallurgiches-
kikh pechey (Department of Metallurigcal Furnaces). There are 1
table, 1 figure and 2 Soviet-bloc references.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic
              Institute)

SUBMITTED: December 13, 1960

Card 3/3

34163
S/196/62/000/002/015/023
E194/E155

/{.I}3{

AUTHORS: Sukhanov, Ye.L., and Kuprovskiy, B.B.

TITLE: The thermal conductivity and temperature
               conductivity of chrome-nickel alloys

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika
               no.2, 1962, 5, abstract 2G 40. (Tr. Ural'skogo
               politekhn. in-ta, v.114, 1961, 86-89).

TEXT: The thermal conductivity λ of stainless steel
2 X13 (2Kh13) and 18 X 18H 9T (1Kh18N9T) and also of nichrome was
investigated in the temperature range 10-900 °C by the radial
heat-flux method in a thick-walled cylinder and by the regular
conditions method. The relationship between the thermal
conductivity of steel 2Kh13 and temperature was found and
practically coincides with a published value. The value of the
temperature conductivity a of the alloys is calculated from
experimental results and published data using the formula:

$$a = \lambda/(c_p \cdot d_{20})$$

Card 1/2   X

The thermal conductivity and ...

34163
S/196/62/000/002/015/023
E194/E155

where c_p is the specific heat of the alloy at the given temperature and d_{20} is the density of the alloy at 20 °C. The calculations are based on the dimensions of the body at room temperature, and so d_{20} must be used and not the density at the temperature of calculation. Graphs of a as a function of temperature for the alloys show that for steel 2Kh13 there are two minima on the curve corresponding to phase conversion points. However, on passing through the critical points the thermal conductivity of this steel is unaltered. The thermal and temperature conductivity of alloys 1Kh18N9T and X20H80 (Kh20N80), which undergo no phase conversions in the region investigated, increase in an almost linear manner with temperature. 6 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

KUPROVSKIY, B.B.; GEL'D, P.V.

Heat conductivity of α-titanium. Trudy Ural.politekh.inst.
no.14:153-154 '61.   (MIRA 16:6)
              (Titanium—Thermal properties)

KUPROWSKI MARIAN

Poland/Diseases of Farm Animal. Toxicosos   R-3

Abs Jour   : Ref Zhur-Biol., No 2, 1958, 2733

Author   : Bublen Zenon, Kuprowski Marian, Lipanowicz Jerzy
Inst   : Not given
Title   : Intoxication of Horses by Rapeseed Cakes

Orig Pub   : Med. weteryn., 1956, 12, No 10, 613-616

Abstract   : Case of intoxication of 14 horses by rapeseed
             cake is described. Four of the horses died. The
             main symptoms of intoxication were dyspnea and
             colic. A pathologo-anatomical examination after
             an autopsy disclosed frothiness from the nostrils,
             pulmonary edema, about 10 liters of fluid in the
             thoracic cavity, and cardiac and hepatic flabbi-
             ness. A chemical analysis of the content of the
             gastro-intestinal tract revealed 3% of rapeseed
             cake.

Card 1/1

POLAND

FERTIG, Stanislaw, JASINSKA Stanislawa, KUPROWSKI, Marian, and WACHNIK, Zenon; Chair of Microbiology (Katedra Mikro-biologii) (Director: Prof. Dr. Adam SKURSKI), Chair of Epizootiology (Katedra Epizootiologii) (Director: Prof. Dr. Tadeusz SOBIECH), and the Chair of Pathological Anatomy (Katedra Anatomii Patologicznej) (Director: Prof. Dr. Aleksander ZAKRZEWSKI), all of the WSR [Wyzsza Szkola Rolnicza, Higher School of Agriculture] in Wroclaw

"Diagnosis of Listeriosis in Sheep."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 19, No 7, Jul 63, pp 386-391

Abstract: [Authors' English summary] Authors describe centers of listeriosis in sheep in areas where the disease was not previously recorded. They find that histological examinations are of great diagnostic value, and that focal, purulent inflammation of the cerebral stem appears to be a typical pathognomic characteristic of this disease in sheep. There are 26 references: 4 each Soviet and Polish, 3 Western, and 14 German.
1/1

12

BALBIERZ, H.; KUPROWSKI, M.; SIELICKA, B. (Wroclaw)

Isolation of the virulent Candida albicans strain in the course of enzootic Lutreola lutreola. Rocz nauk roln wet 70 no.1/4:243-244 '60.   (EEAI 10:9)

(Minks) (Candida albicans) (Lutreola)

KUPRYAKHINA, K.Z.; ZIMTSEV, P.P.; IVASHCHENKO, A.T.; KOVALENKO, M.F.; Prinimali uchastiye: MOROZOVA, N.A.; ANTIPOVA, G.G.; LEVINA, N.A.

Use of ion-exchange resins for the decontamination of waste waters.
Koks i khim. no.7:46-47 '65.   (MIRA 18:8)

1. Ukrainskiy nauchno-issledovatel'skiy uglekhimicheskiy institut
(for Kupryakhina). 2. Rutchenkovskiy koksokhimicheskiy zavod (for
Zimtsev, Ivashchenko, Kovalenko).

133-6-24/33

AUTHORS: Babakov, A.A., Zhadan, T.A., Danilin, V.A., Bakuma, S.F., Antipov, K.I., Kul'kova, M.N. and Kupryakhina, S.Z.

TITLE: An improvement in the technology of production of high-chromium plates. (Uluchsheniye tekhnologii proizvodstva vysokokhromistogo tolstogo lista).

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp.555-559 (USSR).

ABSTRACT: Optimum conditions of rolling and subsequent heat treatment of plates from steels X25T, X28 and X28 with nitrogen, under which the metal would attain mechanical properties satisfying TY5227-55 and good quality cutting and straightening properties in cold state, were investigated. The following participated in the work: Engineers B.Z.Kononov, V.V.Turitsyn, P.N.Sporyshkov, A.P.Okenko ("Krasnyy Oktyabr") and technician V.I.Shashina (TsNIIChM). It was found that in order to obtain steel plates of required properties slabs should be rolled in a temperature range from 980 to 1000 C - 720 to 800 C with cooling of plates in air. Thermal treatment: a preliminary annealing at 760-780 C for 12-16 hours followed by hardening of each plate (individually) in water after heating the metal to the same temperature (soaking time 3 min per 1 mm thickness of the plate). Chemical composition of steel from the heats

Card 1/2

An improvement in the technology of production of high-
chromium plates. (Cont.)   133-6-24/33

investigated is given in Table 1, mechanical properties
of plates tested in Tables 2 to 6 and some examples of
microstructure obtained under various conditions of
processing in Figs. 2 to 4.

There are 6 tables and 4 figures.

ASSOCIATION: TsNIIChM and "Krasnyy Oktyabr'" Works. (TsNIIChM i
zavod "Krasnyy Oktyabr'").

AVAILABLE: Library of Congress
Card 2/2

KISELEV, A.A., inzh.; LAPSHOVA, M.P.; KUL'KOVA, M.N.; V rabote prinimali
uchastiye: KUPRYAKHINA, S.Z., inzh.; KARTSIN, Yu.A., inzh.
ZHELUDEVA, O.S., inzh.

Smelting roller-bearing steel in acid furnaces using natural
gas and fuel oil [with summary in English]. Stal' 18 no.1:35-40
Ja '58.   (MIRA 11:1)

1.Zavod "Krasnyy Oktyabr'" (for Kiselev, Lapshova Kul'kova).
(Smelting) (Bearing metals)

ZVEREV, M Ya.; KUPRYAKOV, B.G.; LYBIN, I.V.

Stand for agitating graduated flasks. Lab. delo 10 no.4:251-252
'64.   (MIRA 17:5)

1. Gospital'naya terapevticheskaya klinika (zaveduyushchiy - prof.
A.A.Kovelevskiy) Tomskogo meditsinskogo instituta.

MILLER, O.G.; KURYAKOV, Yu.P.; ABDEYEV, M.A.; MIKHAYLOV, N.I.

Reducing losses of copper with waste slags at the Karsakpay
plant. Trudy Alt.GMNII AN Kazakh.SSR 11:3-9 '61.

(MIRA 14:8)

(Karsakpay—Copper industry)   (Smelting furnaces)

KUPRYAKOV, Yu.P.; MILLER, O.G.; SAMKOV, Ye.A.

Use of an air-oxygen blow in the reverberatory smelting of copper
concentrates. TSvet. met. 38 no.9:27-31 S '65.

(MIRA 18:12)

KUDRYAVOV, Yu.P., MILLER, O.G.

Use of oxygen in reverberatory smelting of copper concentrates.
Izv. AN Uz. SSR. Ser. tekh. nauk 8 no.5:78-80 '64.

(MIRA 18:2)

1. Sredneaziatskiy filial Gosudarstvennogo nauchno-issledovatel'-
skogo instituta tsvetnykh metallov.

BOCHKAREV, L.M.; BYKHOVSKIY, Yu.A., kand. tekhn. nauk; KUPRYAKOV, Yu.P.;
KOSTERIN, V.V.; PARETSKIY, V.M.

Pilot plant testing of the smelting of copper sulfide
concentrates in suspension with an oxygen blow. Sbor. nauch.
trud. Gintsvetmeta no.23:115-126 '65.   (MIRA 18:12)

KUPRYAHOV, V. V.

"Distribution of network, methods of observation and estimation of evaporation from water surface."

report submitted for Intl Symp on Design of Hydrological Networks, Quebec, 15-22 June 1965.

KUPRYASHIN, N.N.:

KUPRYASHIN, N.N.: "The hydraulics of the eddy pump". Moscow, 1955. "in Higher Education USSR. All-Union Correspodence Power Engineering Inst. (Dissertations for the Degree of Candidate of Technical Sciences).

SO: Knizhnaya letopis' No 44, 29 October 1955. Moscow.

122-4-3/29

AUTHOR: Kupryashin, N.N., Candidate of Technical Sciences and Kovalenko, V.G., Candidate of Technical Sciences.

TITLE: The present state of the theory and methods of design of vortex pumps (Sovmennoe sostoyanie reorii i metodov rascheta vikhrevykh nasosov.)

PERIODICAL: "Vestnik Mashinostroeniya" (Engineering Journal), 1957, No.4, pp. 20 - 28 (U.S.S.R.)

ABSTRACT: The various names given to the vortex pump in world literature are compared. The name "Vortex" pump is considered the most suitable, because it describes their principle of action. These centrifugal pumps with a lateral ring channel around the periphery are used mainly in the region of small specific speeds (4 - 50) where ordinary centrifugal pumps are inapplicable because of low efficiency, difficulty of manufacture, or absence of self-priming qualities. With the same impeller diameter and r.p.m. the vortex pump yields a head 3 - 5 times greater than the centrifugal pump. It is therefore used for high pressure (25 - 250 m) at comparatively low flows (2-60 m³/hr). Three types of vortex pumps are in use. In the first, the peripheral side channel is "blind" whilst the suction and pressure ports are at a radius smaller than the side channel. In the second and third types with a

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The present state of the theory and methods of design of
vortex pumps. (Cont.)   122-4-3/29
unilateral or bilateral open peripheral side channel the ports
are situated directly at the beginning and the end of the
channel, though sometimes the suction port is situated at a
smaller radius. Only the first type of vortex pump possesses the
property of self-priming. The theory of the vortex pump as
developed by three Russian and two U.S.A. investigators is
critically reviewed. B.I. Nakhodkin ("Investigation of the
vortex pump in water". Dissertation, Moscow Power Institute,
Moscow, 1951) visualised the vortex pump pressure consisting
of the ordinary centrifugal pressure plus a vortex pressure
resulting from the transfer of energy by the fast moving part-
icles of liquid in the impeller cells to the slowly moving
particles of liquid in the channel, this transfer being associa-
ted with the formation and decay of vortices in the working
portion of the lateral channel.. No analytical theory of exist-
ing pumps has been developed, and the pressure coefficient as
well as the various design parameters are found from graphs and
tables. The American investigations by Iverson ("Performance
of the periphery pump", Trans. ASME, Vol.77, No.1, 1955) and
2/5 Wilson (Santalo, M.A. and Oelrich, J.A. "A theory of the fluid –
dynamic mechanism of regenerative pumps" Trans. ASME, Vol.77,

The present state of the theory and methods of design of
vortex pumps. (Cont.)   122-4-3/29
No.8, 1955) are based on the hypothesis of an increased mass of
liquid in the side channel owing to shear stresses which arise
in the flow due to an interaction between the impeller and the
liquid. They adopt the theory that the liquid particles in the
side channel move along spiral (helical) trajectories. Their
analytical formulae for the outlet pressure, power and efficiency
are reproduced but are not considered practically usable.
Design work, analysis of the working process, and tests carried
out at the "Krasnyy Fakel' plant lead to the distinction between
the main vortex and subsidiary vortices arising as a result of
fluid flow around the vane edges, roughness, and other causes.
In a correctly designed pump the main vortex should be predomin-
ant..The entrainment of the liquid mass by the impeller motion
is accompanied by a partial or full decay of the vortices, their
deformation or "shear". This vortex deformation or decay causes
shear stresses in pumps with a lateral channel of semi-circular
cross-section, vortices with an axis normal to this cross-
section arise most easily and vortices with other axes are most
likely to be suppressed, when the impeller blades are thin and
3/5 their number is large. Following the senior author's disser-
tation (Kupryashin, N.N. "The hydrodynamics of the vortex pump"

The present state of the theory and methods of design of vortex pumps. (Cont.)

122-4-3/29

Dissertation, Moscow Power Institute, Moscow, 1955) the theory of the pump is developed for a type of fluid motion described by a coil wrapped around a wheel. This one-dimensional theory, with the help of momentum equations is developed for an ideal fluid and leads to the basic equation of the vortex impeller from which the pressure developed can be determined in relation to all the design parameters of the wheel. Pressure-volume, power and efficiency graphs are reproduced for several Soviet designs and compared with calculated graphs from the formula, showing good agreement. Guidance for the application of vortex pumps is given as follows: liquid viscosity below 5 $^\circ$ Engler, size of mechanical impurities up to 0.1 mm, head per impeller between 1 and 200 m, flow between 0.1 and 17 ℓ/sec, maximum efficiency 45%, minimum weight pr kW, 2 kg, speed up to 6 000 r.p.m. The determination of the main design parameter from the basic formula is discussed in detail. The cross-section of the side channel has a large effect on the properties of the pump. With increasing cross-sectional area, the pressure becomes smaller and the characteristic curve flatter. The

4/5   effects of the number of blades, of an open or enclosed impeller design, of forward facing or backward facing blades are

5/5   The present state of the theory and methods of design of
vortex pumps.   (Cont.)

discussed.   122-4-3/29

There are 10 figures, including 5 graphs, and 13 references,
7 of which are Slavic.

AVAILABLE:

KUPRYASHIN, N. N.

122-2-3/33

AUTHORS: Kovalenko, V.G. and Kupryashin, N.N., Candidates of Technical Sciences.

TITLE: Modern Designs of Vortex and Centrifugal-Vortex Pumps (Sovremennyye konstruktsii vikhrevykh i tsentrobezhno-vikhrevykt nasosov)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, No.2, pp. 10-16 (USSR)

ABSTRACT: Enclosed vortex pumps were produced by Soviet industry in larger numbers than open vortex pumps, typical abroad. Enclosed pumps have a steeper pressure volume characteristic, better efficiency and stronger impeller vanes. Their greater susceptibility to cavitation has led to the development of centrifugal-vortex pumps with a centrifugal stage preceding the vortex stage. A typical design, designated UBC-53, is illustrated in cross-section and its cavitation properties are shown in a graph (Fig.2). The centrifugal stage permits a range of speeds up to 6 000 r.p.m. A series of sizes of single impeller, centrifugal-vortex pumps has been brought out for petrol engine driven pumping units. The provision of a self-priming device in the shape of a separating dome is illustrated (Fig.4) and discussed. The study of separating dome design has shown that an increase in dome size and the raising of the liquid level in it increase the intensity of suction. However,

Card1/3

122-2-3/33

Modern Designs of Vortex and Centrifugal-Vortex Pumps

various designs of dampers above the pressure port and the choice of an optimum velocity of flow through the priming port can increase the suction without increasing the dome size. Wire mesh dampers have proved effective. Vortex stages should be relieved of radial stresses. The design of an unloading ring developed by the "Krasnyy Fakel" plant is illustrated in Fig. 5. The wheel has two concentric vane rings, and the housing, corresponding working channels. These constitute two stages in series and raise the liquid head up to 120 m. Another solution is shown in Fig. 6, where the wheel has cantilever vanes. Its advantages are discussed in detail. The same principle is incorporated in another pump (Fig. 9) for high-pressure duties. The cantilever vanes make it possible to embody a hydraulically well-designed flow system from the centrifugal stage to the vortex stage. The overall efficiency reaches 36%. The loss of pressure (and efficiency) due to the priming dome is computed and found to reach 15%. To reduce the pressure losses due to the sudden widening of the flow passage, a spiral outlet can be designed similar to that of centrifugal pumps. Further design ideas are discussed. The combination of a centrifugal and vortex wheel in parallel to

Card 2/3

122-2-3/33

Modern Designs of Vortex and Centrifugal-Vortex Pumps

achieve a self-priming pump is illustrated, but the series design is advocated. The design of a pump housing incorporating two suction and two pressure port (Fig. 13) is shown, which permits doubling the suction head.
There are 13 figures and 3 Russian references.

AVAILABLE: Library of Congress

Card 3/3

KUPRYASHIN, N.N., kand. tekhn. nauk.

Analytic determination of the disk-friction coefficient in the tur-
bulent zone. Energomashinostroenie 4 no.8:17-19 Ag '58.   (MIRA 11:11)
(Hydraulics)

KUPRYASHIN, N.N., kand.tekhn.nauk; MYAGKOV, D.Ya., inzh.

Improving the design of hydraulic screw tools. Trakt. i sel'khozmash.
no.11:46-48 N '58.   (MIRA 11:11)
                    (Hydraulic machinery)

KUPRYASHIN, N.N.

KOVALENKO, V.G., kand. tekhn. nauk; KUPRYASHIN, N.N., kand. tekhn. nauk.

Modern designs of vortex and centrifugal vortex pumps. Vest. mash.
38 no.2:10-16 F '58.   (MIRA 11:1)

(Pumping machinery)

KUPRYASHIN, N.N., kand. tekhn. nauk; MYAGKOV, D.Ya., inzh.

Aspects of the development of assembly work mechanization. Vest. mash. 38 no.4:19-23 Ap '58.

(MIRA 11:3)

(Screwdrivers)

SOV/122-59-6-23/27

AUTHOR: Kupryashin, N.N., Candidate of Technical Sciences

TITLE: Two-speed Hydraulic Screw Motor Nut Driver

PERIODICAL: Vestnik mashinostroyeniya, 1959, Nr 6, pp 82-85 (USSR)

ABSTRACT: Following the example of the English "Desoutter" 2-speed
pneumatic nut driver, in which the sudden increase of
torque resistance on reaching the tightening position
produces a gear shift into slow, high-torque operation, the
hydraulics laboratory of the NII Traktorosel'khozmash has
developed two-speed hydraulic screw motor nut drivers,
type UGR-10, namely, with a mechanical or a hydraulic
reducing gear, respectively. Except for the reducing gear,
other components are identical. The single-speed
hydraulic driver (Figure 1), previously described by the
author and others (Ref 1) has a screw-type hydraulic motor
with a central rotor and two idlers connected to the driving
spindle through a two-step reduction gear. The mechanical
two-speed variant (Figure 2) has a torque limiting coupling
connecting directly the hydraulic motor spindle with the
driving spindle and a free-wheel clutch between the gear and

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SOV/122-59-6-23/27

Two-speed Hydraulic Screw Motor Nut Driver

pinion of the cluster assembly forming the second and third gear of the four-gear reducing gear-train. The torque limiting coupling is of the cone friction type. At high speed, the pressure loss in the channel to the hydraulic motor causes increased tightening of the cone. At low speed, the sliding proceeds at reduced cone pressure. The free-wheel clutch is of the roller type. The hydraulic reducing gear variant (Figure 4) contains, in place of the gear train, a vane rotor coupled to the driving spindle through a free-wheel clutch. In high-speed operation, the nut driving spindle is directly driven by the hydraulic screw motor. When the spindle is braked on reaching the tightening position of the nut, a spool valve inside the spindle is displaced against a spring and oil appears on the pressure side of the vane, thus creating the tightening torque. The vane rotor drives the nut driving spindle through the free-wheel clutch. The rotational speed of the nut driving spindle drops by the ratio of the vane area to the corresponding hydraulic motor screw area and so a hydraulic speed reduction is achieved. After completion of

Card2/3

Two-speed Hydraulic Screw Motor Nut Driver   SOV/122-59-6-23/27

nut tightening, the spool valve spring restores the valve
to the initial position and thereby returns the vane to its
initial position. The author favours the mechanical reducing
gear for small units with a relatively low reduction ratio
(2.5 - 7). For high torque and large ratios (about 20)
the hydraulic reducing principle yields a more compact unit.
There are 4 figures and 2 references, of which 1 is Soviet
and 1 English.

Card 3/3

KUPRYASHIN, N.N., kand.tekhn.nauk; MYAGKOV, D.Yu., inzh.

Multiple-spindle hydraulic nut driver. Trakt.i sel'khozmash. no.8: 38-40 Ag '59. (MIRA 12:11)
(Bolts and nuts)

KUPRYASHIN, N.N., kand. tekhn. nauk

Hydrohelical pump and vibrator. Strol. i dor. mash. 7 no.4:
28-30 Ap '62.   (MIRA 16:7)

(Vibrators)

KUPRYASHKIN, Ye.A.

Using novocaine in some diseases of the ear, nose, and throat.
Vest. oto-rin. 19 no.1:111 Ja-F '57   (MLRA 10:4)

1. Iz kafedry bolezney ukha, gorla i nosa (zav.-prof. A.Kh.
Min'kovskiy) Chelyabinskogo meditsinskogo instituta.
        (NOVOCAINE) (OTORHINOLARYNGOLOGY)

KUPRYASHINA, Z.I.

Eye injuries from 1947 to 1958 data of the ophthalmological
outpatient department of the S.V. Ochapovskii Krasnodar
Clinical Hospital. Vestn. oftal. 76 no.4:56-58 Jl-Ag'63
(MIRA 17:1)

KUPRYJANCZYK, Boguslaw, inz. (Opole)

Welding of medium and low pressure steam pipelines. Gosp paliw
11 no.10:389 O '63.

KUPICYJANCZYK, B.

The management of electric power in the cement industries. p. 231.
(Cement, Wapno, Gips, Krakow, Vol. 12, no. 10, Oct. 1956.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

KUPRYK, Lech, mgr inz.; KUBIAK, Stefan, inz.

Survey of production of the Electric Lamp Assembly Equipment
Works. Wiad elektrotechn 30 no.5:170-172 My '62.

POLAND/Organic Chemistry - Natural Compounds and Their   G.
Synthetic Analogs.

Abs Jour   : Ref Zhur - Khimiya, No 16, 1958, 54118

Author   : Kupryshevsky, Sokolovskaya
Inst   :
Title   : New Methods for Esterification of Amino Acids.

Orig Pub   : Acta biochim. polon., 1957, 4, No 2, 85-92

Abstract   : New methods for a direct esterification of amino acids
(A A) and their N-acyl derivatives were developed.
To a solution or a weighed amount of 0.1 mole of an AA
in I.2-2 moles of an aliphatic alcohol, 0.12 moles of
$SOCL_2$ at $0°C$ is added and set aside for 48 hours
(~ 20°C). After an alcohol excess has been vacuum dis-
tilled (bath temperature $100°C$), the ester hydrochlorides
are obtained.
The N-acyl-AA are esterified under the same conditions,
using $SOCL_2$ or CH_3OCL. These methods are suitable for

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an AA esterification with primary or secondary alcohol
(in liquid state); with tertiary alcohols, the reaction
proceeds unsatisfactory.
One tenth mole of N-acyl-AA is dissolved in an anhydrous
C_5H_5N and to it 0.1 mole of $C_6H_5SO_2Cl$ is added (0°C).

After 5 minutes 0.1 mole of phenol, nitrophenol or an
aliphatic alcohol is added, and the contents set aside
for 2 hours (20°C) after which time they are poured into
80-100 g. of ice. The following R'NHCHR"COOR are pre-
pared (R,R;, R" and the yield in % is given):
1) Using SO_2; CH_3, H, H, 97; C_2H_5, H, H, 98; CH_3, H,

CH_3, 88; C_2H_5, H, CH_3, 92; CH_3, H, C_3H_7, 92; C_2H_5, H,

C_3H_7, 89; CH_3, H, iso- C_3H_7, 91; C_2H_5, H, iso-C_3H_7, 85;

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POLAND/Organic Chemistry - Natural Compounds and Their
            Synthetic Analogs.   G.

Abs Jour   : Ref Zhur - Khimiya, No 16, 1958, 54118

C_6H_5CO, iso-C_4H_9, 95; CH_3, C_6H_5CO, $CH_2C_6H_5$, 87; C_2H_5,

C_6H_5CO, $C_6H_5CH_2$, 87.

3) Using $C_6H_5SO_2Cl$: $CH_2C_6H_5$, $C_6H_4(CO)_2$, H, 83;

$C(CH_3)_3$, $C_6H_4(CO)_2$, H, 96; C_6H_5, $C_6H_4(CO)_2$, H, 92;

$C_6H_5NO_2$-P, $C_6H_4(CO)_2$, H, 86; $C_6H_4NO_2$-0, $C_6H_4(CO)_2$, H,

93; $C_6H_4NO_2$-P, $C_6H_5CH_2OCO$, H, 89.

Card 5/5

POLAND / Organic Chemistry.   Natural Compounds   G-3
           and Their Synthetic Analogs.
Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77856.

Author   : Taschner, E.; Kupryszewski, G., and Liberek, B.
Inst   : Not given.
Title   : On the Selective Cleavage of Ester Groups in
           N-acylated Amino Acids and Peptides During
           Acidolysis.

Orig Pub: Roczniki Chem, 30, No 2, 643-646 (1956) (in Pol-
           ish with an English summary).

Abstract: $C_6H_5CONHCCH_2COOR$ (I), where R = CH_3, C_2H_5,
           $CH(CH_3)_2$, or $CH_2C_6H_5$ (Ia), as well as the
           ester of the peptide /sic/ $C_6H_5CONHCH_2CONHCH$-
           ($COOCH_3$) $CH_2C_6H_4OH$ 4 are selectively cleaved
           at the ester group at about 20^0 after 4-6 days

Card 1/2

.... / Organic Chemistry. Natural Compounds
           and Their Synthetic Analogs.   G-3

Abs Jour: Ref Zhur-Khimiya, No.

KUPRYSZEWSKI, G.; SOKOLOWSKA, T.

New method for the esterification of amino acids. Acta biochim. polon.
4 no.2:85-92 1957.

1. Z Katedry Chemii Ogolnej Politechniki Gdanskiej Kierownik Katedry:
Prof. dr E. Taschner.
        (AMINO ACIDS
                esterification, new method (Pol))

POLAND / Organic Chemistry. Natural Substances and   G
        their Synthetic Analogues.

Abs Jour: Ref Zhur Khimiya, No 20, 1958, 67666.

Author   : Taschner E., Kupryszewski G.
Inst   : Not given.
Title   : Overacylation. Size of Acyl Groups in the N-acyl-
           ated Amines, Aminoacids and Peptides Under the
           Influence of Organic Acids.

Orig Pub: Roczn. Chem., 1957, 31, No 2, 711-713.

Abstract: Overacylation of the esters of dibenzoylglycine
          and of hippuric acid was observed while heating
          in the presence of an acid catalyst (H_2SO_4 or HBr)
          in CH_3COOH which was revealed by the evolution of

Card 1/2

Abs Jour: Ref Zhur-Khimiya, No 20, 1958, 67666.

Abstract: benzoic acid. An anological reaction was conduc-
          ted by heating acetanilide with C Cl_3COOH that
          yielded 80% of trichloracetanilide. Application
          of this reaction to the peptides showed that N-
          -benzol-DL-lycylglycine breaks down into N-benzoyl-
          DL-lycine (87% yield) and N-acetylglycine, while
          hippurylglycine, phthaloyl-DL-phenylalanylglycine
          and phthaloylglycine-DL-phenylalanine do not enter
          reaction. The described overacylation reaction
          may be presented by the following general formula:
          R'CONHR + R"COOH $\rightleftarrows$ R"CONHR + R'COOH.

Card 2/2

SOKOLOWSKA,T.; KUPRYSZEWSKI,G.; TASCHNER,E.

New method of synthesis of peptides via N-protected symmetrical anhydrides of aminoacids. Bul Ac Pol chim 6 no.2:89-91 '58

(EEAI 9:6)

1. Department of General Chemistry, Institute of Technology, Gdansk. Communicated by T.Urbanski.

(Peptides)   (Anhydrides)   (Amino acids)

G-3

Country   : Poland
Category   :

45977

Abs. Jour   :

Author   : Sokolowska, T., Kupryszewski, G., and Taschner, E.
Institut.   : Not given
Title   : New Method for the Synthesis of Peptides Via
                Symmetric Anhydrides of N-Substituted Amino Acids

Orig Pub.   : Roczniki Chem, 32, No 4, 815-819 (1958)

Abstract   : The authors describe a new method for the synthe-
                sis of dipeptides from tosyl- or phthalylamino
                acids (I) and the hydrochlorides (HC) of amino
                acid esters (II) in the presence of benzenesulfo-
                nyl chloride (III). A mixture of 1 mmol I and
                1-2 mmols II in 1-3 ml anhydrous C_5H_5N is treated
                with 1 mmol III with cooling and left to stand
                1-20 hrs at 20°; the reaction product is pre-
                cipitated with water. The primary and secondary
                components, the amounts used (in mmols), the

Card: 1/4

Country   :   Poland
Category   :   G-3

Abs. Jour   :   45977

Author   :
Institut.   :
Title   :

Orig Pub.   :

Abstract   :   the volume of pyridine in ml, the name of the
                   peptide, yield in %, and mp in °C are given
                   below: phthalylglycine (Ia), HC of the methyl
                   ester (ME) of glycine (IIa), 5,5,10, ME of
                   phthalyl-glycyl-glycine, 75, -; Ia, HC of ME
                   of DL-Leucine, (, 10, 10. ME of phthalylglycyl-
                   DL-leucine, 54, 165-166 (from ethyl acetate -
                   petroleum ether); phthalyl-DL-leucine, HC of
                   the ethyl ester of glycine, -,2,4, ethyl ester of
                   phthalyl-DL-leucyl glycine, 52, -; Ia, HC of ME

Card: 2/4

Country   :   Poland
Category   :   G-3

Abs. Jour   :

Author   :
Institut.   :   45977
Title   :

Orig Pub.   :

Abstract   :   of DL-phenylalanine (IIb), 2.5, 2.5, 5, ME of
                   phthalylglycyl-DL-phenylalanine, 86, 125;
                   phthalyl-DL-phenylalanine, IIa, 5,5,5, ME of
                   phthalyl-DL-phenylalanylglycine, 90, 135-136;
                   N, O-ditosyl-L-tyrosine (Ib), IIa, 2,4,6, ME of
                   N,O-ditosyl-L-thyrocylglycine, 95, 75-76 (from
                   50% CH_3OH), [X]^{20}D -16° (c = 0.6; alcohol).
                   The synthesis probably proceeds by the forma-
                   tion of symmetrical I anhydrides since the
                   authors succeeded in isolating phthalylglycine

Card: 3/4

COUNTRY   : Poland   G-3
CATEGORY   :

ABS. JOUR.   : RZKhim., No. 22 1959, No.   78750

AUTHOR   : Taschner, E., Kupryszewski, G., and Liberek, B.
INST.   : Not given
TITLE   : Acidolysis. II. Investigation of the Cleavage
                of esters of N-Acylated Amino Acids and Peptides.

ORIG. PUB.   : Roczniki Chem, 32, no 5, 1107-1113 (1958)

ABSTRACT   : The authors have studied the effect of tempera-
                ture, reaction time, and various organic acids
                and catalysts on the degree of acidolysis. The
                experiments were carried out in the main on es-
                ters of hippuric acid. The optimum reaction
                medium is glacial CH_3COOH with HBr as catalyst
                (1-1.5 mol per mol of ester; 4-6 days, about
                20°). Following distillation of the CH_3COOH and
                HBr under vacuum, the residue is dissolved in
                ethyl acetate or in ether, extracted with a

CARD: 1/4

142

ABS. JOUR. : RZKhim., No.   22 1959, No.   78750

AUTHOR   :

TITLE   :

ORIG. PUB. :

ABSTRACT   : solution of Na_2CO_3, and acidified. The yield of
                N-acylated acids or of dipeptides is 80-90%.
                The authors have confirmed that the degree of
                cleavage is independent of the nature of the
                alcohol residue. The esters of N-phthalyl- and
                N,N'-dibenzoylamino acids form an exception: the
                cleavage of the methyl ester of phthalylglycine
                attains 89%, while that of the ethyl ester is
                only 35%; the ethyl ester of N,N'-dibenzoylgly-
                cine is not cleaved, apparently because of steric

CARD: 2/4

TASCHNER, E.; KUPRYSZEWSKI, G.; UMINSKI, T.; BOROWSKI, B.

Investigations on the mechanism of the N-transacylation reaction
by means of $1^{14}C$ labelled acetic acid. Bul.Ac.Pol.chim. 7 no.12:
867-869 '59.

(EEAI 9:5)

1. Department of General Chemistry, Technical University, Gdansk.
II Department of Physics, Technical University, Gdansk.
   (Acylation) (Acetic acid) (Carbon) (Radioisotopes)

TASCHNER, E.; KUPRYSZEWSKI, G.

Racemization in the N-transacylation reaction and a study of its course by means of $1^{14}C$ acetic acid. Bul.Ac.Pol.chim. 7 no.12: 871-872 '59.

(Racemization) (Acylation) (Acetic acid) (Radioisotopes) (Carbon)

(EEAI 9:5)

TASCHNER, E.; WASIELEWSKI, C.; KUPRYSZEWSKI, G.; UMINSKI, T.

Investigations on the reaction mechanism of O-acidolysis by means of $1^{14}C$ acetic and propionic acids. Bul.Ac.Pol.chim. 7 no.12:873-875 '59.

(BMAI 9:5)

(Acetic acid)   (Propionic acid) (Hydrolysis)
        (Carbon)   (Radioisotopes)

KUPRYSZEWSKI, Gotfryd; KACZMAREK, Marian

On aminoacid chlorophenyl esters. I. N-protected aminoacid 2,4,6-
trichlorophenyl esters. Rocz chemii 35 no.4:931-936 '61.

1. Department of Organic Chemistry, Normal School, Gdansk.

KUPRYSZEWSKI, Gotfryd; FORMELA, Malgorzata

On aminoacid chlorophenyl esters. III. N-protected amino acid penta-
chlorophenyl esters. Rocz chemii 35 no.5:1533-1536 '61.

1. Department of Organic Chemistry, School of Education, Gdansk.

P/528/61/001/000/005/007
D207/D308

AUTHOR: Kupryszewski, Gotfryd

TITLE: N-shielded amino acid 1-methyl-2-acetylvinyl
                   esters and an attempt to use them for the
                   synthesis of peptides

SOURCE: Danzig. Wyższa Szkoła Pedagogiczna. Zeszyty
                   naukowe. Matematyka, fizyka, chemia, v. 1,
                   1961. Danzig, 1962, 95 - 98

TEXT: N-shielded amino acid 1-methyl-2-acetylvinyl
esters were prepared by the method of Wieland and Heinke (Ann.,
615, 184 1958) from ice-cooled pyridine solutions of N-shielded
amino acids and acetyl acetone in the presence of phosphorus·oxy-
chloride dissolved in methylene dichloride. The esters were mixed
of cis and trans forms. Only two of the esters (phthalyl glycine
and phthalyl-DL-phenylalanine) were crystalline. The esters could
be used to synthesize peptides by aminolysis. N-shielded dipep-
tide esters were obtained from the crystalline active esters in

Card 1/2

N-shielded amino acid ...   P/528/61/001/000/005/007
                                             D207/D308

60 - 90% yields, and in 50 - 65% yields from the noncrystalline
esters. The rate of aminolysis of 1-methyl-2-acetylvinyl esters
was considerably greater than that of analogous phenyl esters,
but the practical applications of this observation are very limit-
ed because of the difficulties of obtaining peptides in crystalline
form.

ASSOCIATION: Katedra Chemii Organicznej Wyższej Szkoły
                      Pedagogicznej, Gdańsk   (Organic Chemistry
                      Department, Higher School of Education,
                      Gdańsk)

SUBMITTED: March 16, 1961

Card 2/2

P/528/61/001/000/006/007
D204/D307

AUTHORS: Kupryszewski, Gotfryd and Formela, Małgorzata

TITLE: Pentachlorophenyl esters of amino acids. IV.
                  The application of pentachlorophenyl esters
                  of N-shielded amino acids to the synthesis of
                  peptides

SOURCE: Danzig. Wyższa Szkoła Pedagogiczna, Zeszyty
                  naukowe. Matematyka, fizyka, chemia, v. 1,
                  1961. Danzig. 1962, 99 - 101

TEXT: This article is a continuation of previous
studies (Roczniki Chem., 35, 931 (1961) : 35, 595 (1961) : 35,
1555 (1961)) in which a method for the preparation of active
pentachlorophenyl esters (A) of N-shielded amino acids was
developed. In the present work, the aminolysis of A was carried
out in tetrahydrofuran or dioxan, using methyl or ethyl esters
of other amino acids. Compounds A were found to be efficient
acylating agents, reacting at room temperature to give 75-98%
yields of the corresponding esters of N-shielded dipeptides.
Card 1/2

Pentachlorophenyl esters ...

P/528/61/001/000/006/007
D204/D307

The following compounds were obtained: the ethyl esters of carbobenzoxyglycylglycine, carbobenzoxyglycyl-DL-phenylaniline, carbobenzoxyglycyl-L-tyrosine, carbobenzoxy-DL-alanylglycine, carbobenzoxy-L-leucylglycine, carbobenzoxy-DL-phenylalanylglycine, phthalyl-DL-alanylglycine, and phthalyl-DL-leucylglycine, and the methyl esters of phthalyl-DL-phenylalanylglycine and tosyl-DL-valylglycine. The use of water-miscible tetrahydrofuran and dioxan is necessary in view of the relatively low solubility of the pentachlorophenyl esters in ethyl acetate; despite the consequent difficulties in purifying the reaction products, the method proposed is essentially very simple. There is 1 table.

ASSOCIATION: Katedra Chemii Organicznej Wyższej Szkoły
               Pedagogicznej, Gdańsk (Department of Organic
               Chemistry, Higher School of Education, Gdańsk)

SUBMITTED: June 25, 1961

Card 2/2   ?

TASCHNER, Emil; KUPRYSZEWSKI, Gotfryd

Application of the N-acidolysis reaction for cleavage of peptide bonds. Rocz chemii 36 no.1:63-72 '62.

1. Department of General Chemistry, Institute of Technology, Gdansk.

KUPRYSZEWSKI, Gotfryd; FORMELA, Malgorzata

Amino acid chlorophoryl esters. Pts. 6-7. Matem fiz chem
Gdansk 2 127-134 '62.

1. Department of Organic Chemistry, School of Education, Gdansk.

KUPRYSZLWSKI, Gotfryd; WOJNOWSKI, Wieslaw

New esters of 4,6 dinitro-O-cresole. Matem fiz chem Gdansk
2 143-144 '62.

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Depsipeptides. Pt.1. Matem fiz chem Gdansk 2 155-180 '62.

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S/081/62/000/022/015/088
B144/B101

AUTHORS: Sokołowski, Janusz, Kupryszewski, Gotfryd, Umiński,
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TITLE: Use of compounds tagged with the radioactive carbon isotope
              C^{14} to study the conversion of N-glucosides. I. Exchange of
              acetyl groups in N-acetyl-N-2,3,4,6-tetra-O-acetyl-D-
              glucopyranosyl-p-aminoazobenzene

TEXT: Hydrolysis of N-acetyl-N-2,3,4,6-tetra-O-acetyl-D-glucopyranosyl-
p-aminoazobenzene (I) leads to the formation of N-acetyl-N-D-gluco-
pyranosyl-p-aminoazobenzene (II) and of a small quantity of N-D-gluco-
pyranosyl-p-aminoazobenzene (III). The position of the acetyl group in
I was determined on the basis of a study of the acyl exchange in I:

the effect of $C^{14}H_3COOCOCH_3$ (IV) on I leads to an exchange of the N-acetyl

Card 1/2

Use of compounds tagged with ...

S/081/62/000/022/015/088
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group. The mixture of 0.2 g I [m.p. 199-200°C, $[\alpha]_D^{17}$ + 32 ± 3°
(c 0.402, chloroform)], 0.02 g $ZnCl_2$, and 0.5 ml IV (activity 0.01 mcu/ml)
is kept for 4 hrs at 100°C; I with C^{14} (activity 748 imp/min per mmole)
is obtained. The mixture of 0.2 g N-N-2,3,4,6-tetra-0-acetyl-D-gluco-
pyranosyl-p-aminobenzene (V), 0.02 g $ZnCl_2$, and 0.5 ml IV is heated for
0.5 hr; I with C^{14} is obtained; yield 0.12 g (activity 1978 imp/min per
mmole). To 107.7 mg I, produced from V, 36 mg $(CH_3)_2NH$ dissolved in
9.5 ml CH_3OH is added, the mixture is stirred for 9 hrs at 20°C, and a
mixture of II (86%) and III (10 ± 4%) is obtained (the yield was deter-
mined by paper chromatography and by measuring the activity of the
mixture). [Abstracter's note: Complete translation.]

Card 2/2

KUPRYSZEWSKI, Gotfryd; WOJNOWSKI, Wieslaw

On phenyl and thiophenyl esters of halogenoacetic acid.
Rocz chemii 36 no.2:359-362 '62.

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and Department of Inorganic Chemistry, Institute of Technology,
Gdansk.

KUPRYSZEWSKI, Gotfryd; KAŹMIERCZAK, Ryszard

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KURRYSZEWSKI, Gotfryd

Depsipeptides. Pt.2. Rocz chemii 36 no.11:1593-1598 '62.

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I.P.Pavlova.
(TAPEWORM INFECTION, compl.
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(ANEMIA, etiol. & pathogen.
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(GAMMA GLOBULIN)   (ANTIBIOTICS)   (PLAGUE)